

Key Mars Science Laboratory Science Team Papers

2013

- Mahaffy, P.R., C.R. Webster, S.K. Atreya, H. Franz, M. Wong, P.G. Conrad, D. Harpold, J.J. Jones, L.A. Leshin, H. Manning, T. Owen, R.O. Pepin, S. Squyres, M. Trainer, and MSL Science Team, **Abundance and isotopic composition of gases in the martian atmosphere from the Curiosity rover**, *Science*, 341(6143):263-266, doi:10.1126/science.1237966, 2013.
- Webster, C.R., P.R. Mahaffy, G.J. Flesch, P.B. Niles, J.H. Jones, L.A. Leshin, S.K. Atreya, J.C. Stern, L.E. Christensen, T. Owen, H. Franz, R.O. Pepin, A. Steele, and the MSL Science Team, **Isotope ratios of H, C, and O in CO₂ and H₂O of the martian atmosphere**, *Science*, 341(6143):260-263, doi:10.1126/science.1237961, 2013.
- Wiens, R.C., S. Maurice, J. Lasue, O. Forni, R.B. Anderson, S. Clegg, S. Bender, D. Blaney, B.L. Barraclough, A. Cousin, L. Deflores, D. Delapp, M.D. Dyar, C. Fabre, O. Gasnault, N. Lanza, J. Mazoyer, N. Melikechii, P.-Y. Meslin, H. Newsom, A. Ollila, R. Perez, R.L. Tokar, and D. Vaniman, **Pre-flight calibration and initial data processing for the ChemCam laser-induced breakdown spectroscopy instrument on the Mars Science Laboratory rover**, *Spectrochimica Acta Part B: Atomic Spectroscopy*, 82:1-27, doi: 10.1016/j.sab.2013.02.003, 2013.
- Williams, R.M.E., J.P. Grotzinger, W.E. Dietrich, S. Gupta, D.Y. Sumner, R.C. Wiens, N. Mangold, M.C. Malin, K.S. Edgett, S. Maurice, O. Forni, O. Gasnault, A. Ollila, H. E. Newsom, G. Dromart, M.C. Palucis, R.A. Yingst, R.B. Anderson, K.E. Herkenhoff, S. Le Mouélic, W. Goetz, M.B. Madsen, A. Koefoed, J.K. Jensen, J.C. Bridges, S.P. Schwenthaler, K.W. Lewis, K.M. Stack, D. Rubin, L.C. Kah, J.F. Bell III, J.D. Farmer, R. Sullivan, T. Van Beek, D.L. Blaney, O. Pariser, R.G. Deen, and MSL Science Team, **Martian fluvial conglomerates at Gale Crater**, *Science*, 340(6136):1068-1072, doi:10.1126/science.1237317, 2013.
- Wray, J.J., **Gale crater: The Mars Science Laboratory/Curiosity rover landing site**, *International Journal of Astrobiology*, 12(1):25-38, doi:10.1017/S1473550412000328, 2013.
- Zeitlin, C., D.M. Hassler, F.A. Cucinotta, B. Ehresmann, R.F. Wimmer-Schweingruber, D.E. Brinza, S. Kang, G. Weigle, S. Böttcher, E. Böhm, S. Burmeister, J. Guo, J. Köhler, C. Martin, A. Posner, S. Rafkin, and G. Reitz, **Measurements of Energetic Particle Radiation in Transit to Mars on the Mars Science Laboratory**, *Science*, 340(6136):1080-1084, doi:10.1126/science.1235989, 2013.

2012

- Anderson, R.C., L. Jandura, A.B. Okon, D. Sunshine, C. Roumeliotis, L.W. Beegle, J. Huowitz, B. Kennedy, D. Limonadi, S. McCloskey, M. Robinson, C. Seybold, and K. Brown, **Collecting samples in Gale crater, Mars; an overview of the Mars Science Laboratory Sample Acquisition, Sample Processing and Handling System**, *Space Science Reviews*, 170:57-75, doi:10.1007/s11214-012-9898-9, 2012.
- Blake, D., D. Vaniman, C. Achilles, R. Anderson, D. Bish, T. Bristow, C. Chen, S. Chipera, J. Crisp, D. Des Marais, R.T. Downs, J. Farmer, S. Feldman, M. Fonda, M. Gailhanou, H. Ma, D.W. Ming, R.V. Morris, P. Sarrazin, E. Stolper, A. Treiman, and A. Yen, **Characterization and calibration of the CheMin mineralogical instrument on Mars Science Laboratory**, *Space Science Reviews*, 170:341-399, doi:10.1007/s11214-012-9905-1, 2012.

- Campbell, J.L., G.M. Perrett, R. Gellert, S.M. Andrushenko, N.I. Boyd, J.A. Maxwell, P.L. King, and C.D.M. Schofield, **Calibration of the Mars Science Laboratory Alpha Particle X-ray Spectrometer**, *Space Science Reviews*, 170:319-340, doi:10.1007/s11214-0129873-5, 2012. 
- Conrad, P.C., J.L. Eigenbrode, M.O. Von der Heydt, C.T. Mogensen, J. Canham, D.H. Harpold, J. Johnson, T. Errigo, D.P. Glavin, and P.R. Mahaffy, **The Mars Science Laboratory organic check material**, *Space Science Reviews*, 170:479-501, doi:10.1007/s11214-012-9893-1, 2012. 
- Edgett, K.S., R.A Yingst, M.A. Ravine, M.A. Caplinger, J.N. Maki, F.T. Ghaemi, J.A. Schaffner, J.F. Bell III, L.J. Edwards, K.E. Herkenhoff, E. Heydari, L.C. Kah, M.T. Lemmon, M.E. Minitti, T.S. Olson, T.J. Parker, S.K. Rowland, J. Schieber, R.J. Sullivan, D.Y. Sumner, P.C. Thomas, E.H. Jensen, J.J. Simmonds, A.J. Sengstacken, R.G. Willson, and W. Goetz, **Curiosity's Mars Hand Lens Imager (MAHLI) investigation**, *Space Science Reviews*, 170:259-317, doi:10.1007/s11214-012-9910-4, 2012. 
- Fergason, R.L., P.R. Christensen, M.P. Golombek, and T.J. Parker, **Surface properties of the Mars Science Laboratory candidate landing sites: Characterization from orbit and predictions**, *Space Science Reviews*, 170:739-773, doi:10.1007/s11214-012-9891-3, 2012. 
- Golombek, M., J. Grant, D. Kipp, A. Vasavada, R. Kirk, R. Fergason, P. Bellutta, F. Calef, K. Larsen, Y. Katayama, A. Huertas, R. Beyer, A. Chen, T. Parker, B. Pollard, S. Lee, Y. Sun, R. Hoover, H. Sladec, J. Grotzinger, R. Welch, E. Noe Dobrea, J. Michalski, and M. Watkins, **Selection of the Mars Science Laboratory landing site**, *Space Science Reviews*, 170:41-737, doi:10.1007/s11214-012-9916-y, 2012. 
- Gómez-Elvira, J., C. Armiens, L. Castañer, M. Domínguez, M. Genzer, F. Gómez, R. Haberle, A.-M. Harri, V. Jiménez, H. Kahanpää, L. Kowalski, A. Lepinette, J. Martín, J. Martínez-Frías, I. McEwan, L. Mora, J. Moreno, S. Navarro, M.A. de Pablo, V. Peinado, A. Peña, J. Polkko, M. Ramos, N.O. Renno, J. Ricart, M. Richardson, J. Rodríguez-Manfredi, J. Romeral, E. Sebastián, J. Serrano, M. de la Torre Juárez, J. Torres, F. Torrero, R. Urquí, L. Vázquez, T. Velasco, J. Verdasca, M.-P. Zorzano, and J. Martín-Torres, **REMS: The environmental sensor suite for the Mars Science Laboratory rover**, *Space Science Reviews*, 170: 583-640, doi:10.1007/s11214-012-9921-1, 2012. 
- Grotzinger, J.P., J. Crisp, A.R. Vasavada, R.C. Anderson, C.J. Baker, R. Barry, D.F. Blake, P. Conrad, K.S. Edgett, B. Ferdowsi, R. Gellert, J.B. Gilbert, M. Golombek, J. Gómez-Elvira, D.M. Hassler, L. Jandura, M. Litvak, P. Mahaffy, J. Maki, M. Meyer, M.C. Malin, I. Mitrofanov, J.J. Simmonds, D. Vaniman, R.V. Welch, and R.C. Wiens, **Mars Science Laboratory mission and science investigation**, *Space Science Reviews*, 170:5-56, doi:10.1007/s11214-012-9892-2, 2012. 
- Hassler, D. M., C. Zeitlin, R. F. Wimmer-Schweingruber, S. Böttcher, C. Martin, J. Andrews, E. Böhm, D.E. Brinza, M.A. Bullock, S. Burmeister, B. Ehresmann, A. Posner, S. Rafkin, L. Seimetz, K.D. Smith, Y. Tyler, G. Weigle, G. Reitz, and F.A. Cucinotta, **The Radiation Assessment Detector (RAD) investigation**, *Space Science Reviews*, 170:503-558, doi:10.1007/s11214-012-9913-1, 2012. 
- Mahaffy, P.M., C.R. Webster, M. Cabane, P.C. Conrad, P. Coll, S.K. Atreya, R. Arvey, M. Barciniak, M. Benna, L. Bleacher, W.B. Brinckerhoff, J.L. Eigenbrode, D. Carignan, M. Cascia, R.A. Chalmers, J.P. Dworkin, T. Errigo, P. Everson, H. Franz, R. Farley, S. Feng, G. Frazier, C. Freissinet, D.P. Glavin, D.N. Harpold, D. Hawk, V. Holmes, C.S. Johnson, A. Jones, P. Jordan, J. Kellogg, J. Lewis, E. Lyness, C.A. Malespin, D.K. Martin, J. Mauren, A.C. McAdam, D. McLennan, T.J. Nolan, M. Noriega, A.A. Pavlov, B. Prats, E. Raaen, O. Sheinman, D. Sheppard, J. Smith, J.C. Stern, F. Tan, M. Trainer D.W. Ming, R.V. Morris, J. Jones, C. Gundersen, A. Steele, J. Wray, O. Botta, L.A. Leshin, T. Owen, S. Battel, B.M. Jakosky, H. Manning, S. Squyres, R. Navarro-González, C.P. McKay, F. Raulin, R. Sternberg, A. Buch, P. Sorensen, R. Kline-Schoder, D. Coscia, C. Szopa, S. Teinturier, C. Baffes, J. Feldman, G. Flesch, S. Forouhar, R. Garcia, D. Keymeulen, S. Woodward, B.P. Block, K. Arnett, R. Miller, C. Edmonson, S.

- Gorevan, and E. Mumm, **The Sample Analysis at Mars investigation and instrument suite**, *Space Science Reviews*, 170:401-478, doi:10.1007/s11214-012-9879-z, 2012. 
- Maki, J., D. Thiessen, A. Pourangi, P. Kobzeff, T. Litwin, L. Scherr, S. Elliott, A. Dingizian, and M. Maimone, **The Mars Science Laboratory engineering cameras**, *Space Science Reviews*, 170:77-93, doi:10.1007/s11214-012-9882-4, 2012. 
- Maurice, S., R.C. Wiens, M. Saccoccia, B. Barraclough, O. Gasnault, O. Forni, N. Mangold, D. Baratoux, S. Bender, G. Berger, J. Bernardin, M. Berthé, N. Bridges, D. Blaney, M. Bouyé, P. Caïs, B. Clark, S. Clegg, A. Cousin, D. Cremers, A. Cros, L. DeFlores, C. Derycke, B. Dingler, G. Dromart, B. Dubois, M. Dupieux, E. Durand, L. d'Uston, C. Fabre, B. Faure, A. Gaboriaud, T. Gharsa, K. Herkenhoff, E. Kan, L. Kirkland, D. Kouach, J.-L. Lacour, Y. Langevin, J. Lasue, S. Le Mouélis, M. Lescure, E. Lewin, D. Limonadi, G. Manhès, P. Mauchien, C. McKay, P.-Y. Meslin, Y. Michel, E. Miller, H.E. Newsom, G. Orttner, A. Paillet, L. Parès, Y. Parot, R. Pérez, P. Pinet, F. Poitrasson, B. Quertier, B. Sallé, C. Sotin, V. Sautter, H. Séran, J.J. Simmonds, J.-B. Sirven, R. Stiglich, N. Striebig, J.-J. Thocaven, M.J. Toplis, and D. Vaniman, **The ChemCam instrument suite on the Mars Science Laboratory (MSL) rover: Science objectives and mast unit description**, *Space Science Reviews*, 170:95-166, doi:10.1007/s11214-012-9912-2, 2012. 
- Mitrofanov, I.G., M.L. Litvak, A.B. Varenikov, Y.N. Barmakov, A. Behar, Y.I. Bobrovitsky, E.P. Bogolubov, W.V. Boynton, K. Harshman, E. Kan, A.S. Kozyrev, R.O. Kuzmin, A.V. Malakhov, M.I. Mokrousov, S.N. Ponomareva, V.I. Ryzhkov, A.B. Sanin, G.A. Smirnov, V.N. Shvetsov, G.N. Timoshenko, T.M. Tomilina, V.I. Tret'yakov, and A.A. Vostrukhin, **Dynamic Albedo of Neutrons (DAN) experiment onboard NASA's Mars Science Laboratory**, *Space Science Reviews*, 170:559-582, doi:10.1007/s11214-012-9924-y, 2012. 
- Vaniman, D., M.D. Dyar, R. Wiens, A. Ollila, N. Lanza, J. Lasue, J.M. Rhodes, and S. Clegg, **Ceramic ChemCam calibration targets on Mars Science Laboratory**, *Space Science Reviews*, 170:229-255, doi:10.1007/s11214-012-9886-0, 2012. 
- Vasavada, A.R., A. Chen, J.R. Barnes, P.D. Burkhardt, B.A. Cantor, A.M. Dwyer-Cianciolo, R.L. Fergason, D.P. Hinson, H.L. Justh, D.M. Kass, S.R. Lewis, M.A. Mischna, J.R. Murphy, S.C.R. Rafkin, D. Tyler, and P.G. Withers, **Assessment of environments for Mars Science Laboratory entry, descent, and surface operations**, *Space Science Reviews*, 170:793-835, doi:10.1007/s11214-012-9911-3, 2012. 
- Wiens, R.C., S. Maurice, B. Barraclough, M. Saccoccia, W.C. Barkley, J.F. Bell III, S. Bender, J. Bernardin, D. Blaney, J. Blank, M. Bouyé, N. Bridges, N. Bultman, P. Caïs, R.C. Clanton, B. Clark, S. Clegg, A. Cousin, D. Cremers, A. Cros, L. DeFlores, D. Delapp, R. Dingler, C. D'Uston, M.D. Dyar, T. Elliott, D. Enemark, C. Fabre, M. Flores, O. Forni, O. Gasnault, T. Hale, C. Hays, K. Herkenhoff, E. Kan, L. Kirkland, D. Kouach, D. Landis, Y. Langevin, N. Lanza, F. LaRocca, J. Lasue, J. Latino, D. Limonadi, C. Lindensmith, C. Little, N. Mangold, G. Manhes, P. Mauchien, C. McKay, E. Miller, J. Mooney, R.V. Morris, L. Morrison, T. Nelson, H. Newsom, A. Ollila, M. Ott, L. Pares, R. Perez, F. Poitrasson, C. Provost, J.W. Reiter, T. Roberts, F. Romero, V. Sautter, S. Salazar, J.J. Simmonds, R. Stiglich, S. Storms, N. Striebig, J.-J. Thocaven, T. Trujillo, M. Ulibarri, D. Vaniman, N. Warner, R. Waterbury, R. Whitaker, J. Witt, and B. Wong-Swanson, **The ChemCam instrument suite on the Mars Science Laboratory (MSL) rover: Body unit and combined system tests**, *Space Science Reviews*, 170:167-227, doi:10.1007/s11214-012-9902-4, 2012. 

2008-2011

- Fabre, C., S. Maurice, A. Cousin, R.C. Wiens, O. Forni, V. Sautter, and D. Guillaume, **Onboard calibration igneous targets for the Mars Science Laboratory Curiosity rover and the Chemistry Camera laser induced breakdown spectroscopy instrument**, *Spectrochimica Acta Part B: Atomic Spectroscopy*, 66:280-289, doi: 10.1016/j.sab.2011.03.012, 2011. 
- Grotzinger, J., **Beyond water on Mars**, *Nature Geoscience* 2:231-233, doi:10.1038/ngeo480, 2009. 
- Hardgrove, C., J. Moersch, and D. Drake, **Effects of geochemical composition on neutron die-away measurements: Implications for Mars Science Laboratory's Dynamic Albedo of Neutrons experiment**, *Nuclear Instruments and Methods in Physics Research A*, 659:442-455, doi:10.1016/j.nima.2011.08.058, 2011. 
- Litvak, M.L., I.G. Mitrofanov, Y.N. Barmakov, A. Behar, A. Bitulev, Y. Bobrovitsky, E.P. Bogolubov, W.V. Boynton, S.I. Bragin, S. Churin, A.S. Grebennikov, A. Konovalov, A.S. Kozyrev, I.G. Kurdumov, A. Krylov, Y.P. Kuznetsov, A.V. Malakhov, M.I. Mokrousov, V.I. Ryzhkov, A.B. Sanin, V.N. Shvetsov, G.A. Smirnov, S. Sholeninov, G.N. Timoshenko, T.M. Tomilina, D.V. Tuvakin, V.I. Tretyakov, V.S. Troshin, V.N. Uvarov, A. Varenikov, and V. Vostrukhin, **The Dynamic Albedo of Neutrons (DAN) Experiment for NASA's 2009 Mars Science Laboratory**, *Astrobiology* 8(3):605-612, doi:10.1089/ast.2007.0157, 2008. 
- Sebastián, E., C. Armiens, J. Gómez-Elvira, M.P. Zorzano, J. Martínez-Frias, B. Esteban, and M. Ramos, **The Rover Environmental Monitoring Station Ground Temperature Sensor: A Pyrometer for Measuring Ground Temperature on Mars**, *Sensors 2010*, 10(10):9211-9231, doi:10.3390/s101009211, 2010. 
- Summons, R.E., J.P. Amend, D. Bish, R. Buick, G.D. Cody, D.J. Des Marais, G. Dromart, J.L. Eigenbrode, A.H. Knoll, and D.Y. Sumner, **Preservation of martian organic and environmental records: Final report of the Mars biosignature working group**, *Astrobiology*, 11(2): doi:10.1089/ast.2010.0506, 2011. 
- ten Kate, I.L., J.S. Canham, P.G. Conrad, T. Errigo, I. Katz, and P.R. Mahaffy, **Mitigation of the impact of terrestrial contamination on organic measurements from the Mars Science Laboratory**, *Astrobiology*, 8(3):571-582, doi:10.1089/ast.2007.0160, 2008. 
- Webster, C.R., and P.R. Mahaffy, **Determining the local abundance of Martian methane and its C-13/C-12 and D/H isotopic ratios for comparison with related gas and soil analysis on the 2011 Mars Science Laboratory (MSL) mission**, *Planetary and Space Science*, 59(2-3):271-283, doi:10.1016/j.pss.2010.08.021, 2011. 

Links to More Comprehensive Online Team Publication Lists:

[ChemCam Team Publications](#)

[DAN Team Publications](#)

[MAHLI Team Publications and Reference Material](#)

[MARDI Team Publications and Reference Material](#)

[Mastcam Team Publications and Reference Material](#)

[RAD Team Publications](#)

[REMS Team Publications](#)

[SAM Gas Chromatograph Publications](#)